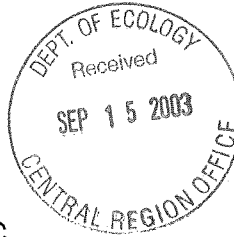




Shaw Environmental, Inc.



Shaw Environmental, Inc.  
19909 120th Ave. N.E., Suite 101  
Bothell, WA 98011  
425.485.5000  
Fax: 425.486.9766

September 10, 2003  
Project 100088

Mr. Scot Sandefur  
Environmental Compliance Manager  
American Tower Corporation  
220 North William Dillard Drive  
Gilbert, Arizona 85233

CK#1089  
#500  
9/15/03  
fm

Re: Cleanup of Mineral Oil-Impacted Soils from Ruptured Transformer at Hyak Tower Site  
(Site Number 89535), Keechelus Ridge, Washington

Dear Mr. Sandefur:

Shaw Environmental, Inc. (Shaw), on behalf of American Tower Corporation (ATC), has prepared this letter report summarizing mineral oil-impacted soil cleanup activities conducted at the Hyak Tower site on Keechelus Ridge, near Hyak, Washington (Figure 1). Excavation of impacted soils was conducted at the site in participation with the Washington Department of Ecology (Ecology) Voluntary Cleanup Program (VCP). Soils with mineral oil concentrations exceeding the Model Toxics Control Act (MTCA) Method A Soil Compliance Cleanup Levels (CCL[a]) for Unrestricted Land Uses were excavated and transported to a regulated disposal facility.

This project was conducted in accordance with the terms and conditions of the Master Contractor Agreement between Shaw and ATC, executed July 18, 2003, and Shaw's proposal to ATC dated August 13, 2003.

## BACKGROUND

The site is a large cell-phone tower facility, including associated control and equipment sheds in a chain link fence enclosure (Figure 2), located on top of Keechelus Ridge in central Washington (latitude: 47.34733, longitude: -121.30731). Cleanup activities occurred near a power pole located to the southwest and outside of the main tower enclosure. The pole is located in a cleared area with some scrub vegetation, which slopes to the southwest toward a wooded hillside.

According to ATC employee Dave Drolet, a power outage at the site was identified on December 10, 2002. On December 13 or 14, 2002, Potelco utility contractors visited the site and discovered the transformer insulators had been damaged by an apparent gunshot. The transformer was taken down, reportedly "wrapped up" and contained on site, and replaced by a new transformer on the pole. No staining was identified at the time (the site was reportedly covered in snow). On June

12, 2003, after the spring thaw, Mr. Drolet visited the site and identified staining on surface soils. The transformer was reportedly standing upright against the base of the power pole.

A Shaw environmental engineer conducted site characterization activities on July 26, 2003. The ruptured transformer was found lying on its side on the ground near the base of the power pole and was observed to contain approximately one-half of its dielectric fluid. An apparent bullet hole was observed in the side of the transformer. Approximately 150 square feet of surface soil exhibiting signs of staining was observed around the transformer, down slope of the transformer in the clearing, and several feet into the nearby wooded area. Shallow test trenches identified staining down to 2 to 6 inches below ground surface (bgs). Analysis of soil samples collected from the site indicated that soils were impacted with mineral oil at concentrations between 26,200 milligrams per kilogram (mg/kg) and 70,900 mg/kg (above the MTCA CCL[a] cleanup level of 4,000 mg/kg). Analysis of the transformer oil identified no detectable concentrations of polychlorinated biphenyls.

## **CLEANUP ACTIVITIES**

On August 26, 2003, Emerald Services, Inc. of Seattle, Washington, under the supervision of a Shaw environmental engineer, containerized and removed the ruptured transformer in a Department of Transportation-approved overpack drum, and excavated soils around the transformer and power pole exhibiting staining. In general, staining extended less than 6 inches bgs, except directly beneath where the ruptured transformer had been located, where staining was observed up to approximately 18 inches bgs. A total of 4.49 tons of soil (approximately 5 to 6 cubic yards) was excavated from the area. The vertical extent of the excavation was limited due to the presence of a shallow underground power line identified directly beneath the work area. Excavated soils were transported to TPS Technologies, Inc. in Lakewood, Washington, for thermal treatment/recycling. The transformer was transported off site; emptied, cleaned, and the contents recycled by Emerald Services; and transported to Bloch Steel in Seattle, Washington for disposal/recycling. Copies of the manifest and disposal documentation are included in Attachment B.

After completion of excavation activities, Shaw collected confirmation soil samples including two grab samples (CS-1 and CS-2; one from each end of the excavation) and a composite sample (CS-Comp) of the excavation bottom. Samples were collected into laboratory-prepared glass sample containers and stored in a chilled cooler for delivery to the laboratory. Samples were appropriately labeled and proper chain-of-custody protocols were followed. Figure 3 depicts the approximate area of excavation and confirmation sample locations.

## RESULTS AND CONCLUSIONS

Confirmation soil samples were delivered to North Creek Analytical laboratory for analysis. Samples were analyzed for mineral oil-range total petroleum hydrocarbons by Method NWTPH-Dx. Analysis of grab samples CS-1 and CS-2 and composite sample CS-Comp indicate that soils containing concentrations of mineral oil greater than the MTCA CCL(a) for Unrestricted Land Uses (4,000 mg/kg) were successfully removed from the site, and that concentrations of mineral oil in soils remaining at the site are below state cleanup levels. A copy of the laboratory analytical results is included as Attachment C.

Based on these results, successful cleanup of the site in accordance with current standards was achieved. Therefore, Shaw will apply to Ecology, on behalf of ATC, for a determination of No Further Action for the site under VCP procedures. A copy of this report and the site characterization report will be submitted to Ecology with the application. In order to satisfy Washington Administrative Code 173-340-300, which requires that spills be reported within 90 days of discovery, Shaw reported the release to the Washington Spill Response Center and the Ecology Central Regional office on September 9, 2003. The information provided in this report satisfied all necessary reporting requirements.

Once you have had an opportunity to review this report, please feel free to contact us with any questions or if we can be of further assistance. We appreciate the opportunity to provide our services and look forward to working with you again in the future.

Sincerely,

SHAW ENVIRONMENTAL, Inc.



Piper Roelen, EIT  
Project Engineer

  
Geoffrey Compeau, Ph.D. *For*  
Program Manager

Attachments: A-Figures  
B-Manifest and Disposal Documentation  
C-Laboratory Analytical Results

cc: Washington Department of Ecology  
Central Regional Office  
15 West Yakima Avenue, Suite 200  
Yakima, Washington 98902-3401

**ATTACHMENT A**  
**FIGURES**

100088

DRAWING  
NUMBER

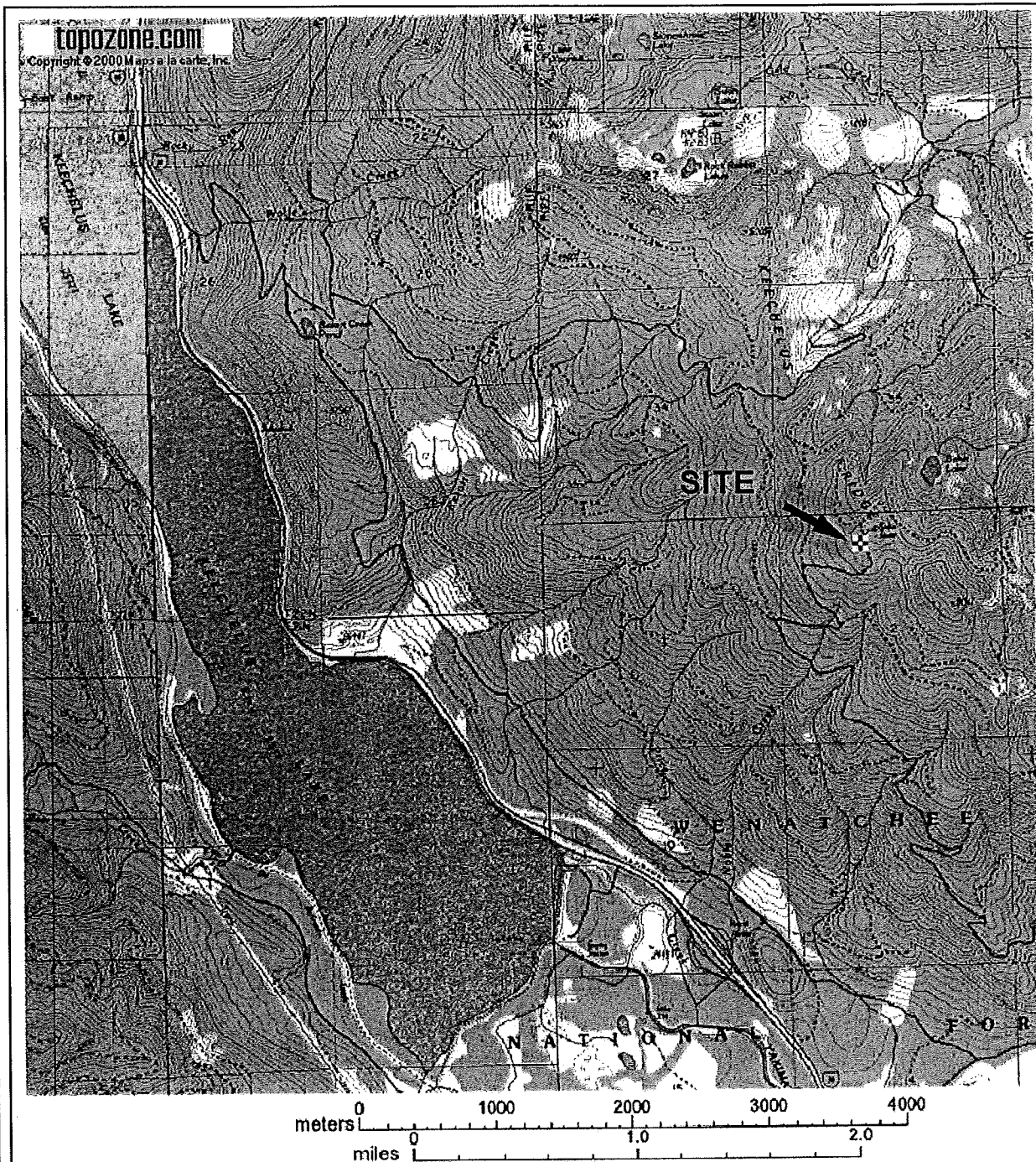
OFFICE  
BOTHELL

APPROVED BY

CHECKED BY

DRAWN BY  
M/Portacio 9/2003

Image: WEN-SITE1.tif  
 No: Project\final\unclassified\HYAK-TOWER\BT-HAYAKT-FL.dwg  
 User: maria.portacio  
 Plotted: Sep 05, 2003 - 9:38am  
 Last Save: Sep 05, 2003 - 9:36am



WASHINGTON

LAT: 47.34733  
 LONG: -121.30731

**SOURCE:**

TopoZone.com - Target is UTM 10 627854E 5244929N - Stampede Pass Quad



Shaw Environmental, Inc.

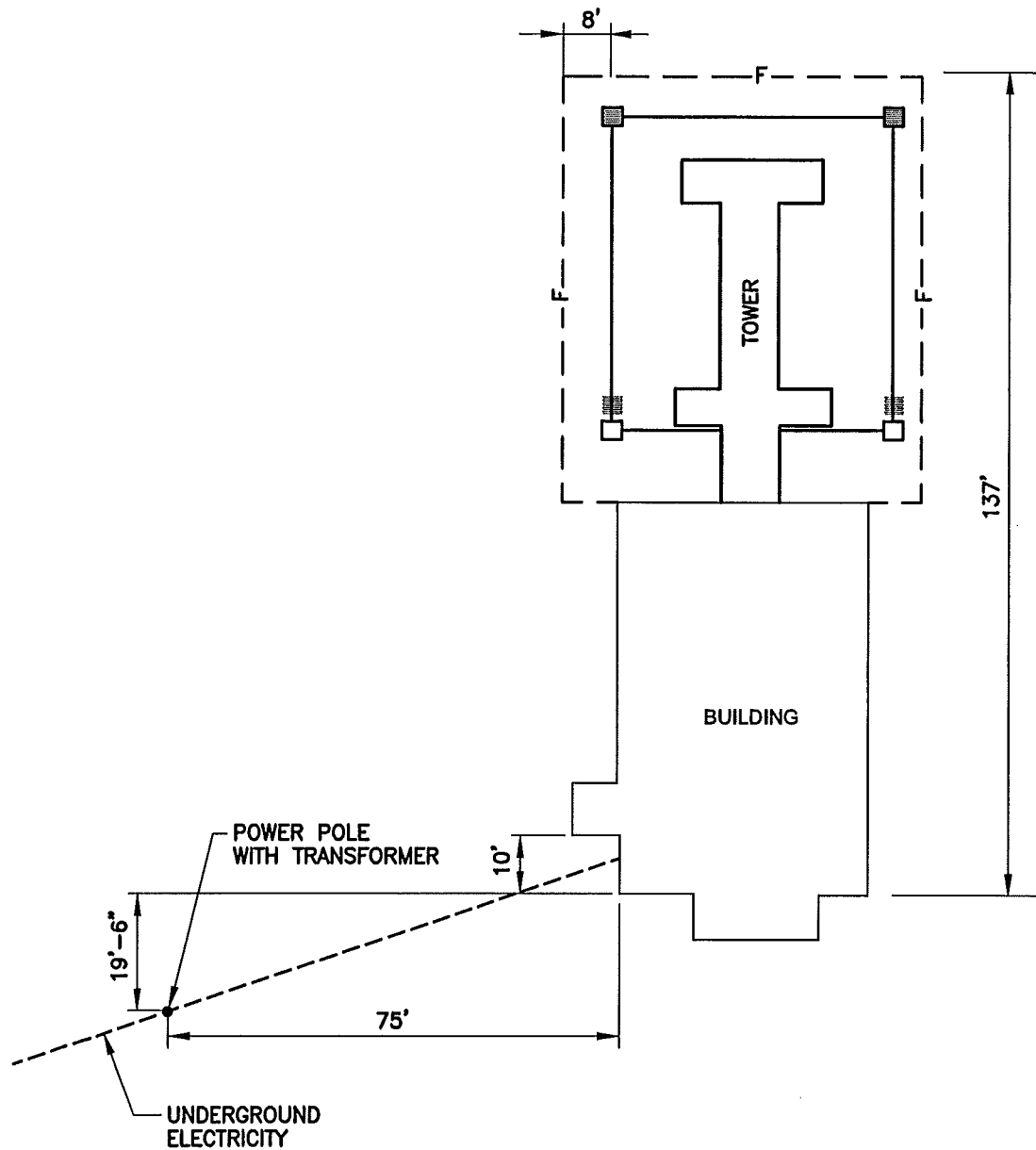
19909 120th Avenue N.E., Suite 101  
 Bothell, Washington 98011  
 Phone (425) 485-5000  
 Fax. (425) 486-9766

**FIGURE 1  
 SITE LOCATION MAP**

HYAK TOWER 89535  
 KEECHELUS RIDGE, WASHINGTON

DRAWN BY	CHECKED BY	APPROVED BY	OFFICE	DRAWING NUMBER
MPortacio	9/2003		BOTHELL	100088

N:\Project\Find\misfiles\HYAK-TOWER\BT-HYAKT-F2.dwg User:maria.portacio Plotted: Sep 05, 2003 - 9:28am Last Saved: Sep 05, 2003 - 9:24am



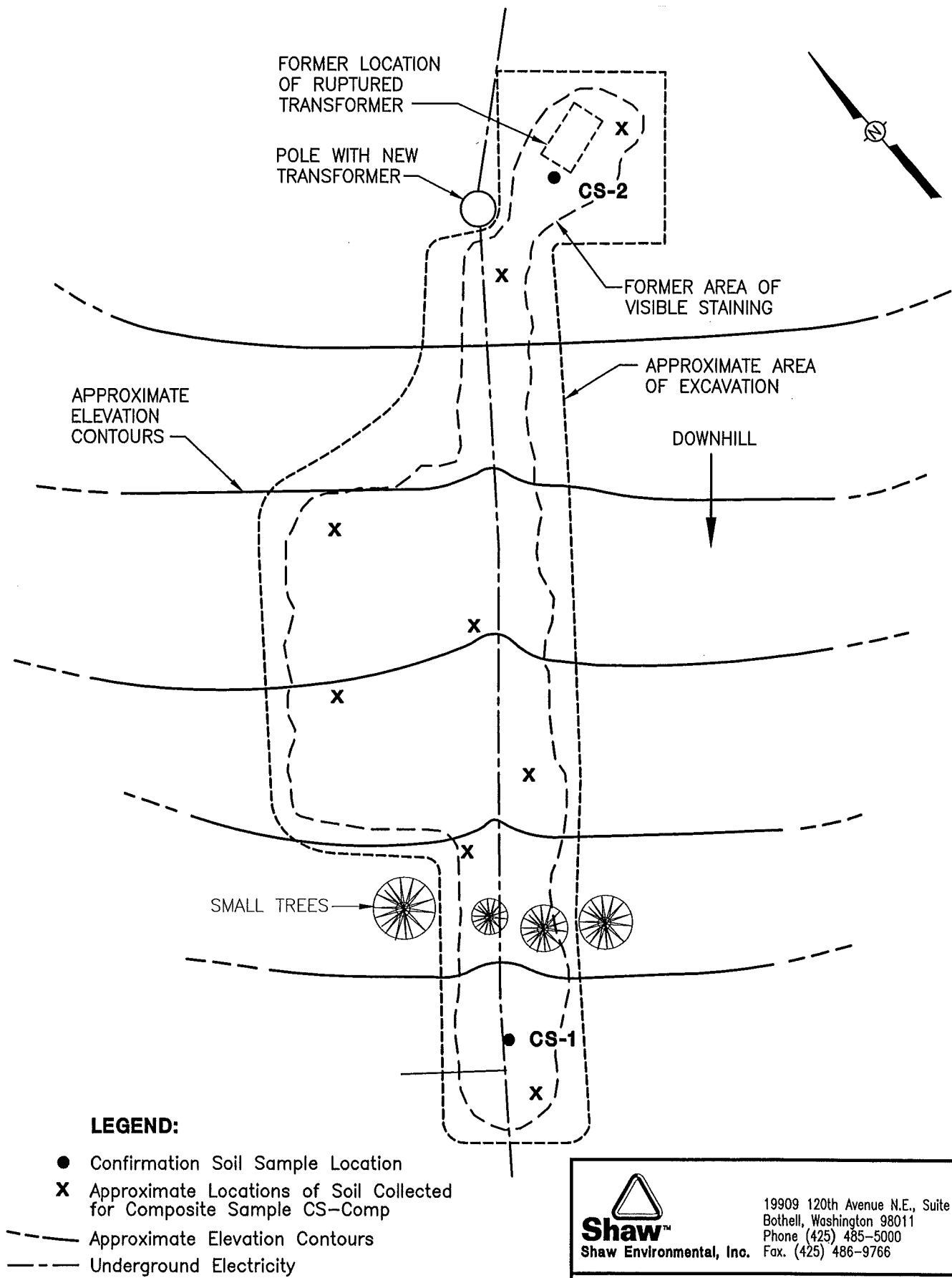
SOURCE: AMERICAN TOWER CORPORATION



19909 120th Avenue N.E., Suite 101  
Bothell, Washington 98011  
Phone (425) 485-5000  
Fax. (425) 486-9766

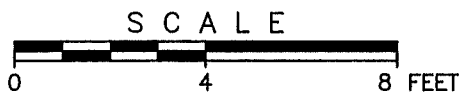
**FIGURE 2**  
**SITE LAYOUT PLAN**

HYAK TOWER 89535  
KEECHELUS RIDGE, WASHINGTON



**LEGEND:**

- Confirmation Soil Sample Location
- X Approximate Locations of Soil Collected for Composite Sample CS-Comp
- Approximate Elevation Contours
- - - Underground Electricity



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 Bothell, Washington 98011  
 Phone (425) 485-5000  
 Fax. (425) 486-9766

**FIGURE 3**  
**REMEDIAL SOIL EXCAVATION DIAGRAM**

HYAK TOWER 89535  
 KEECHELUS RIDGE, WASHINGTON

**ATTACHMENT B**  
**MANIFEST AND DISPOSAL DOCUMENTATION**



# Manifest

## Technologies Soil Recycling

Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment: <b>CONSULTANT</b>	Transporter Truck #:	Facility #: <b>A03</b>	Given by TPS: <b>4529</b>	Load # <b>1</b>
-------------------	---	----------------------	---------------------------	------------------------------	--------------------

Generator's Name and Billing Address: <b>AMERICAN TOWER CORPORATION 220 NORTH WILLIAM DILLARD DRIVE GILBERT, AZ 85233</b>	Generator's Phone #: <b>480/926-4981</b>	Generator's US EPA ID No.:
	Person to Contact: <b>SCOT SANDEFUR</b>	
	FAX#:	Customer Account Number with TPS: <b>7 2781</b>

Consultant's Name and Billing Address: <b>SHAW ENVIRONMENTAL INC. 19909 120TH AVE NE SUITE 101 BOTHELL, WA 98011 USA</b>	Consultant's Phone #: <b>425/485-5000</b>	
	Person to Contact: <b>PIPER ROELEN</b>	
	FAX#: <b>425/486-9766</b>	Customer Account Number with TPS: <b>3004649 / 2562</b>

Generation Site (Transport from): (name & address) <b>HYAK TOWER SITE # 89535  HYAK, WA 98922 USA</b>	Site Phone #: <b>425/785-4016</b>	BTEX Levels
	Person to Contact: <b>DAVE DROLET</b>	TPH Levels
	FAX#:	AVG. Levels

Designated Facility (Transport to): (name & address) <b>TPS Technologies Inc. 2800 - 104th Street Court South Lakewood, WA 98499 USA</b>	Facility Phone #: <b>(253) 584-8430</b>	Facility Permit Numbers
	Person to Contact: <b>Renee Avelino</b>	<b>Rica Nelson</b>
	FAX#: <b>(253) 584-8309</b>	

Transporter Name and Mailing Address: <b>EMERALD SERVICES INC 9010 E. MARGINAL WAY SOUTH SEATTLE, WA 98108 USA</b>	Transporter's Phone #: <b>(206) 755-8486</b>	Transporter's US EPA ID No.:
	Person to Contact: <b>michael mechaelis</b>	Transporter's DOT No.:
	FAX#: <b>(206) 832-3186</b>	Customer Account Number with TPS: <b>1001361 / 10</b>

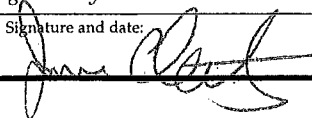
Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand <input type="checkbox"/> Organic <input type="checkbox"/> Clay <input type="checkbox"/> Other <input type="checkbox"/>	0 - 10% <input type="checkbox"/> 10 - 20% <input type="checkbox"/> 20% - over <input type="checkbox"/>	Gas <input type="checkbox"/> Diesel <input type="checkbox"/> Other <input type="checkbox"/>			33240	24260	8980
Sand <input type="checkbox"/> Organic <input type="checkbox"/> Clay <input type="checkbox"/> Other <input type="checkbox"/>	0 - 10% <input type="checkbox"/> 10 - 20% <input type="checkbox"/> 20% - over <input type="checkbox"/>	Gas <input type="checkbox"/> Diesel <input type="checkbox"/> Other <input type="checkbox"/>		NET TONS=	4.49		

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.


Print or Type Name:	Generator <input type="checkbox"/> Consultant <input type="checkbox"/>	Signature and date:	Month	Day	Year
->					

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
<b>JASON Clemente</b>		8	26	03

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
<b>R. AVELINO / R. NELSON</b>	 8/26/03

Please print or type.

# Soil Recycling Certificate

**TPS Technologies Inc.** does hereby certify  
that 4.49 tons of non-hazardous contaminated soil  
received from

**Hyak Towers Site #89535'**  
**The Shaw Group, Inc. (Consultant)**  
**Hyak Tower Site**  
**Hyak, WA 98922**

Under Manifest / authorization number 37767  
4529  
have been properly recycled to approved regulatory standards  
at our Soil Recycling Facility in Tacoma, WA



Dated this August 31, 2003

Sworn and Attested by:  
**TPS Technologies Inc.**

By:



7343 E. Marginal Way South  
Seattle, Washington 98198  
(206) 832-3000  
Fax: (206) 832-3030

30-54331

## PUMP AND RINSE CERTIFICATION

DATE: 9-5-3

### TO WHOM IT MAY CONCERN

This letter is to certify that tank(s), size(s)

1 TRANSFORMER

have been pumped and rinsed for removal.

Work was performed at:

1500 airport way

For:

HYAK CELL TOWER

SHAW ENVIRO

Please note that this letter does not certify that the above tank(s) have been cleaned for disposal or that it (they) should be considered gas-free.

Sincerely,  
Emerald Services, Inc.

A handwritten signature in dark ink, appearing to be "Dave [unclear]", written over a horizontal line.

Underground Tank Division  
762-1190



Emerald Services  
Emerald Services Construction  
Emerald Portable Storage  
Emerald Recycling

## DISPOSAL CERTIFICATION

September 9, 2003

Piper-Roelen  
Shaw Environmental  
4005 Port Chicago Highway  
Concord, CA. 94520-1120

Dear Mr. Roelen,

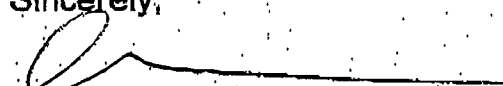
This letter is to certify that Emerald Services, Inc. has received the following tank(s) for cleaning and disposal in accordance with all federal, state and local rules and regulations:

(1) Mineral Oil Transformer

Emerald Services Job #	32-54331
Date Received:	8/26/2003
Date Cleaned:	9/5/2003
Date of Disposal:	9/8/2003
Disposal Site:	Seattle Iron & Metals Corporation
Location of Tank Origin:	Hyack Cell Tower, Cle Elum, WA.

Thank you for your business. If you have any questions or requests for service, please feel free to contact this office at (206) 832-3031 or (206) 832-3000. We look forward to being of service to you in the future.

Sincerely,

  
Sandra Shanklin  
Contract Administrator  
Emerald Construction

**ATTACHMENT C**  
**LABORATORY ANALYTICAL RESULTS**



**Seattle** 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244  
425.420.9200 fax 425.420.9210  
**Spokane** East 11115 Montgomery, Suite B, Spokane, WA 99206-4776  
509.924.9200 fax 509.924.9290  
**Portland** 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132  
503.906.9200 fax 503.906.9210  
**Bend** 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711  
541.383.9310 fax 541.382.7588  
**Anchorage** 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119  
907.563.9200 fax 907.563.9210

03 September 2003

Piper Roelen  
Shaw E & I  
19909 120th Ave. NE Suite 101  
Bothell, WA/USA 98011  
RE: Hyak Transformer Cleanup

Enclosed are the results of analyses for samples received by the laboratory on 08/26/03 14:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Cherie Howland For Jeanne Garthwaite  
Project Manager



**Seattle** 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244  
425.420.9200 fax 425.420.9210  
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541.383.9310 fax 541.382.7588  
**Anchorage** 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119  
907.563.9200 fax 907.563.9210

Shaw E & I  
19909 120th Ave. NE Suite 101  
Bothell, WA/USA 98011

Project: Hyak Transformer Cleanup  
Project Number: None  
Project Manager: Piper Roelen

**Reported:**  
09/03/03 15:34

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CS-1:082603	B3H0663-01	Soil	08/26/03 11:00	08/26/03 14:35
CS-2:082603	B3H0663-02	Soil	08/26/03 11:00	08/26/03 14:35
CS-Comp:082603	B3H0663-03	Soil	08/26/03 11:00	08/26/03 14:35

North Creek Analytical - Bothell

Cherie Howland For Jeanne Garthwaite, Project Manager

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

North Creek Analytical, Inc.  
Environmental Laboratory Network

Page 1 of 6



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425.420.9200 fax 425.420.9210  
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907.563.9200 fax 907.563.9210

Shaw E & I  
19909 120th Ave. NE Suite 101  
Bothell, WA/USA 98011

Project: Hyak Transformer Cleanup  
Project Number: None  
Project Manager: Piper Roelen

Reported:  
09/03/03 15:34

**Identified Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>CS-1:082603 (B3H0663-01) Soil Sampled: 08/26/03 11:00 Received: 08/26/03 14:35</b>									
Mineral Oil Range Hydrocarbons	22.6		mg/kg dry	1	3H27057	08/27/03	08/29/03	NWTPH-Dx	
Surrogate: 2-FBP	94.8 %	50-150			"	"	"	"	
Surrogate: Octacosane	119 %	57-120			"	"	"	"	
<b>CS-2:082603 (B3H0663-02) Soil Sampled: 08/26/03 11:00 Received: 08/26/03 14:35</b>									
Mineral Oil Range Hydrocarbons	10.5		mg/kg dry	1	3H27057	08/27/03	08/29/03	NWTPH-Dx	
Surrogate: 2-FBP	68.6 %	50-150			"	"	"	"	
Surrogate: Octacosane	96.1 %	57-120			"	"	"	"	
<b>CS-Comp:082603 (B3H0663-03) Soil Sampled: 08/26/03 11:00 Received: 08/26/03 14:35</b>									
Mineral Oil Range Hydrocarbons	3960		mg/kg dry	20	3H27057	08/27/03	08/29/03	NWTPH-Dx	
Surrogate: 2-FBP	135 %	50-150			"	"	"	"	
Surrogate: Octacosane	160 %	57-120			"	"	"	"	S-06

North Creek Analytical - Bothell

Cherie Howland For Jeanne Garthwaite, Project Manager

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North Creek Analytical, Inc.  
Environmental Laboratory Network

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Shaw E & I  
19909 120th Ave. NE Suite 101  
Bothell, WA/USA 98011

Project: Hyak Transformer Cleanup  
Project Number: None  
Project Manager: Piper Roelen

**Reported:**  
09/03/03 15:34

**Physical Parameters by APHA/ASTM/EPA Methods**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
CS-1:082603 (B3H0663-01) Soil Sampled: 08/26/03 11:00 Received: 08/26/03 14:35									
Dry Weight	93.0	1.00	%	1	3H29005	08/29/03	08/31/03	BSOPSPL003R08	
CS-2:082603 (B3H0663-02) Soil Sampled: 08/26/03 11:00 Received: 08/26/03 14:35									
Dry Weight	90.3	1.00	%	1	3H29005	08/29/03	08/31/03	BSOPSPL003R08	
CS-Comp:082603 (B3H0663-03) Soil Sampled: 08/26/03 11:00 Received: 08/26/03 14:35									
Dry Weight	94.3	1.00	%	1	3H29005	08/29/03	08/31/03	BSOPSPL003R08	

North Creek Analytical - Bothell

Cherie Howland For Jeanne Garthwaite, Project Manager

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North Creek Analytical, Inc.  
Environmental Laboratory Network

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907.563.9200 fax 907.563.9210

Shaw E & I  
19909 120th Ave. NE Suite 101  
Bothell, WA/USA 98011

Project: Hyak Transformer Cleanup  
Project Number: None  
Project Manager: Piper Roelen

Reported:  
09/03/03 15:34

**Identified Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up) - Quality Control**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch 3H27057: Prepared 08/27/03 Using EPA 3550B**

**Blank (3H27057-BLK1)**

Mineral Oil Range Hydrocarbons	ND	25.0	mg/kg							
Surrogate: 2-FBP	8.04		"	10.7		75.1	50-150			
Surrogate: Octacosane	4.50		"	5.33		84.4	57-120			

**LCS (3H27057-BS1)**

Diesel Range Hydrocarbons	56.9	10.0	mg/kg	66.7		85.3	70-130			
Surrogate: 2-FBP	10.4		"	10.7		97.2	50-150			

**LCS Dup (3H27057-BSD1)**

Diesel Range Hydrocarbons	54.5	10.0	mg/kg	66.7		81.7	70-130	4.31	40	
Surrogate: 2-FBP	10.2		"	10.7		95.3	50-150			

**Duplicate (3H27057-DUP1)**

Source: B3H0663-01

Mineral Oil Range Hydrocarbons	35.0	25.0	mg/kg dry		22.6			43.1	40	Q-05
Surrogate: 2-FBP	9.65		"	11.5		83.9	50-150			
Surrogate: Octacosane	5.88		"	5.74		102	57-120			

North Creek Analytical - Bothell

Cherie Howland For Jeanne Garthwaite, Project Manager

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Environmental Laboratory Network

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425.420.9200 fax 425.420.9210  
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Shaw E & I  
19909 120th Ave. NE Suite 101  
Bothell, WA/USA 98011

Project: Hyak Transformer Cleanup  
Project Number: None  
Project Manager: Piper Roelen

**Reported:**  
09/03/03 15:34

### Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

#### North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Notes
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**Batch 3H29005: Prepared 08/29/03 Using Dry Weight**

**Blank (3H29005-BLK1)**

Dry Weight	100	1.00	%
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North Creek Analytical - Bothell

Cherie Howland For Jeanne Garthwaite, Project Manager

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Shaw E & I  
19909 120th Ave. NE Suite 101  
Bothell, WA/USA 98011

Project: Hyak Transformer Cleanup  
Project Number: None  
Project Manager: Piper Roelen

**Reported:**  
09/03/03 15:34

### Notes and Definitions

Q-05 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit.

S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interferences.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

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